We must be clear about the aims of inquiries. Are they to work out what happened, make recommendations to improve practice, consider the "scandal" in a broader context, or allocate blame? Or are they supposed to be like South Africa's truth and reconciliation commission and try and create harmony from discord? The aims of these inquiries often seems to be confused—and perhaps their real purpose is to divert the heat from politicians. They are not usually about blaming individuals. Nevertheless, those being questioned often feel as if they are being accused and denied the safeguards they would have in a court of law.

The quality of the process is vital in these inquiries, and the Griffiths inquiry seems to have fallen short of best practice. One problem may have been the absence of a lawyer on the inquiry. Much as doctors and others may resent the fact, it is lawyers who know how to conduct inquiries justly, although they may create the intimidating atmosphere of a court when something more agreeable is needed. The process by which people are appointed to inquiries appears wholly opaque, raising the suspicion that politicians appoint people who will give them the result they want. The Bristol inquiry has suffered from these suspicions.[9]

It would be paradoxical to advocate an inquiry into inquiries, but we can begin to see criteria that will make them more likely to succeed. Those who set them up should be clear about their purpose, open about how they appoint members of the inquiry, confident that their processes will be adequate, and sure that they will be value for money. Inquries should publish their materials and methods, check oral allegations against documentary evidence, and send drafts of evidence accusing individuals to those individuals so that errors of fact can be corrected. Inquiries should also surely be held in public—otherwise, there will always be suspicions of bias, corruption, or incompetence. Finally, ministers should think hard before setting up an inquiry. They can easily make things worse rather than better.

Richard Smith *editor, BMJ*

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Catheter ablation for cardiac arrhythmias

Ablation is the safe and curative treatment of choice

The first diagnostic electrocardiography on a person was carried out by Augustus Waller over a century ago at St Mary's Hospital, London. It was not until the 1980s that therapeutic cardiac electrophysiology emerged; this procedure, carried out while patients are conscious, uses wires passed percutaneously to the heart to ablate the cause of arrhythmias. Cardiac electrophysiology is now an established specialty within cardiology.[1 2] Although the word "cure" is not widely applicable in medicine, it can now justifiably be used for the treatment of cardiac arrhythmias. Catheter ablation is a safe and curative option for most arrhythmias, with 85-98% cure rates among the arrhythmias treated most frequently.[3 4] These results have been borne out by a recent large prospective multicentre study of 1050 patients which provides further evidence of the benefit of catheter ablation; the study found an overall cure rate of 95% and that a second procedure was required in 4% of patients. The rate of important complications related to the procedure was $<3\%$.[3] The only randomised trial comparing catheter ablation with drugs in the treatment of recurrent atrial flutter showed that ablation had a better success rate, a greater impact on improving quality of life, and a lower incidence of atrial fibrillation and rehospitalisation.[5] It would seem, however, that many eligible patients may not be referred for definitive treatment because the principles, techniques, and availability of this procedure are not widely known.

The technique involves the percutaneous introduction of electrode catheters (insulated wires with electrodes at their tip, much like temporary pacing wires) into the heart under fluoroscopic guidance to record electrical signals from relevant parts of the heart.[2–4] Once the mechanism of the arrhythmia is established, one of the electrode catheters is navigated to a critical site at which ablative energy (radiofrequency current, which is predictable, effective, and well tolerated) is delivered to create a localised scar that will disrupt the cause of the arrhythmia.

The mechanism of the arrhythmias is described as either focal or re-entrant. Re-entry is a simple concept, and is the mechanism of most clinically important arrhythmias. It describes the progression of a wave front of electrical activation through cardiac muscle over a pathway that leads back to its point of origin. This completes one cycle of a re-entrant circuit, and providing that certain critical conditions exist, conduction will continue around the circuit again and again to produce a regular arrhythmia. The Wolff-Parkinson-White syndrome is well recognised as causing a tachycardia through a re-entry circuit of conduction from atria to ventricles via the atrioventricular node and then from ventricles to atria via an accessory pathway that is congenitally anomalous.

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In any condition in which there is a structural variant providing a similar circular conduction pathway—be it congenital (such as accessory pathway mediated tachycardia, atrioventricular nodal re-entrant tachycardia, and possibly atrial flutter) or acquired (such as ventricular tachycardia after myocardial infarction)—there is the potential for re-entrant arrhythmias. By contrast, when there is severe, generalised disruption of the electrical properties of the myocardium, as occurs in many forms of structural heart disease, re-entrant wave fronts can meander aimlessly through the myocardium without following a fixed path and lead to fibrillation. The mechanism underlying focal arrhythmias is abnormal, rapid, spontaneous electrical activity of a group of cells spreading to the rest of the myocardium.

The aim of catheter ablation is to eliminate the arrhythmia by locating and ablating the safest and most accessible point that will either transect and interrupt a re-entrant circuit or eliminate a focus.

At the beginning of the 21st century, ventricular fibrillation is the only arrhythmia for which ablative therapy is not an option, although in patients who survive cardiac arrest, the implantable cardiac defibrillator, also often underused, has proved beneficial in improving prognosis.

There are well developed techniques using catheter ablation that can reliably cure arrhythmias such as atrioventricular junctional re-entrant tachycardias, atrial flutter, atrial tachycardias and some ventricular tachycardias. But there are other arrhythmias that catheter ablation is less likely to cure, although it is likely to reduce the frequency and duration of episodes. Atrial fibrillation, the most common arrhythmia, can be ablated in selected patients, and considerable effort is being made to refine the procedure. The most promising approach is that of electrically isolating the focal sources of rapid activity that are recognised as the underlying cause of atrial fibrillation in a growing proportion of patients.[6] Rapid technological advances are providing better tools for electrical mapping and ablation of more demanding arrhythmias.[7]

So, who should be considered for referral to an arrhythmia specialist? Clearly, the older patient with longstanding atrial fibrillation can be managed by controlling the ventricular rate and with anticoagulation treatment without need for input from a specialist. By contrast, younger patients with documented arrhythmias—or even those suspected of having arrhythmias as a result of a good clinical history—that are sufficiently troublesome to require any form of treatment should be referred for consideration of catheter ablation. As a general rule, indefinite drug treatment of arrhythmias, particularly in younger patients, should be avoided if possible. Any patient with potentially life threatening arrhythmias—such as ventricular tachycardia or the Wolff-Parkinson-White syndrome—or those who have survived cardiac arrest should be referred.

As a safe treatment, performed under local anaesthesia, which is usually effective as a single procedure, catheter ablation is the first choice treatment for most cardiac arrhythmias. Patients who would otherwise have to be committed to long term drug treatment and follow up should be offered a cure. The number of hospital cardiac departments with the expertise and facilities for catheter ablation is expanding, and this service is now widely available in all parts of the developed world. There is a great need to demystify cardiac arrhythmias and help practitioners understand what treatment is available for the best management of our patients: a cure that is safe, efficacious, and cost effective.

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Infection in xenotransplantation

Studies with cell free virus are needed to define infection—there is no proof yet of safety or danger

Xenotransplantation is the transfer of viable cells, tissues, or organs between species. It has been proposed as a solution to the shortage of human organs (allografts) to treat people with organ failure. There are still serious immunological barriers to the broad clinical application of this technology. Concern has centered on the risk of introducing novel pathogens derived from animals into human recipients of xenografts. In addition, there is the possibility that these infections could spread from the xenograft recipient to the general population. At present, few data address the degree of risk for such interspecies infections in humans.

Infectious diseases are common after organ transplantation, largely due to the immunosupressive agents given to prevent graft rejection.[1] The risk of infection may be greater in xenograft recipients because of the possible need for greater levels of

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